



A photograph of a person's face in profile, looking down and to the side. Their hand is resting near their chin. The background is a soft, out-of-focus landscape.

AN ATTEMPT TO INDUCE
HYPERSUGGESTIBILITY
IN WAKING SUGGESTION

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AN ATTEMPT TO INDUCE HYPERSUGGESTIBILITY IN WAKING SUGGESTION

BY MEANS OF A SPECIFIC SUPPLEMENTARY SUGGESTION TO THAT EFFECT^{1, 2}

by Everett F. Patten

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Various investigations of hypnosis have shown that increased susceptibility to suggestion is a fundamental accompaniment of the hypnotic trance (2, 4, 7).

The studies of Hull and Huse (4) and of Williams (7) also seem to indicate that under certain conditions it may be possible to induce an apparent state of hypersuggestibility, in a somewhat lesser degree, by administering appropriate suggestions to subjects in the waking state. The question is thus raised as to whether heightened susceptibility to suggestion is a definite result of the suggestions which are given to induce hypnosis, or a generalized phenomenon of all successful direct suggestions to overt movement.

An experiment by Patten, Switzer, and Hull (6) was designed to determine whether waking suggestions manifest homoactive hypersuggestibility; that is, whether subjects in the waking state will display a net heightening of responsiveness to suggestion of the same kind after the effect of all non-suggestion influences has been eliminated. The results of this study, which utilized the postural sway technique (3), indicate rather clearly that if any hypersuggestibility whatever exists in this form of suggestion, it must be very

1. From the Psychological Laboratory, Miami University.

2. The following account of this investigation was prepared by St. Clair A. Switzer from the interpretation of Dr. Patten's data as presented by Dr. Clark L. Hull in "An Experimental Approach to Hypnosis and Suggestibility," Century Company, 1933.

small in amount. The negative, and to some extent to practice, after the

A later study by Hull, Patten, and Switzer (5) gave results which were even more definitely in conflict with the hypothesis that positive response to direct suggestion evokes a generalized, or heteroactive, hypersuggestibility. In this investigation suggestions of arm and head movement were given to subjects in the non-trance state. The negative nature of the results was emphasized by the fact that the second trials of both arm and head were distinctly more rapid than the first, a manifestation of a well-established form of heightened responsiveness to suggestion resulting from practice (7). In spite of this fact there was no evidence of a generalized spreading of the tendency to respond more rapidly, to this extent, to cease to be regarded as a scientific

The apparent failure of waking suggestions of arm and head movements to show any trace of mutual heteroactive hypersuggestibility led to the present attempt to test the following hypothesis as a possible alternative:

Social Suggestion Hypothesis

There is a widespread belief that an individual who is in the hypnotic trance is completely within the power of the hypnotist and is unable to resist the latter's suggestions so long as he is "under the influence." It is even believed by large numbers of well-educated persons that the tendency to hyper-suggestibility may become both fixed and generalized by one or two hypnotic procedures, with the result that a permanent weakening of the "victim's" resistance to suggestion may lay him open to the exploitation of unscrupulous persons. The present hypothesis assumes, therefore, that this widespread belief itself constitutes a powerful suggestion supplementary to that

administered by the hypnotist, and is quite sufficient to produce, after the trance has been induced by ordinary suggestion, a marked facilitation of response to further suggestions.

Thus this social suggestion hypothesis assumes a special belief on the part of most subjects that once their lids have been closed by means of waking suggestion they immediately will become very much more suggestible than previously, and that this state of heightened suggestibility will persist as long as the subject considers himself to be under hypnosis.

In so far as this hypothesis finds verification it will be fatal to the claims of hypersuggestibility as being an essential characteristic of hypnosis, and hypnosis should tend, to this extent, to cease to be regarded as a scientific entity.

The Deduction

From the above hypothesis two consequences follow: First, if subjects could be found who do not hold the view assumed by the hypothesis, these individuals should not show hypnotic hypersuggestibility. Secondly, if a strong suggestion of a nature analogous to that assumed to be operative in the case of hypnotic hypersuggestibility could be implanted in the minds of a group of subjects in respect to a suggested reaction which does not normally show this phenomenon, hypersuggestibility should then be manifested.

There appears to be, at present, no direct evidence bearing on the first deduction.

The present account deals with a special experiment to test the second deduction.

Very truly yours,

(Signed) Clark L. Hull

The Experiment

Ten college students who showed definite responsiveness to waking suggestion were first given the indirect suggestion contained in the following letter to the experimenter, which purported to come from Dr. Clark L. Hull, of the Institute of Human Relations of Yale University, a psychologist favorably known to the subjects by reputation. The letter was written on official stationery to enhance the prestige factor of the suggestion:

Professor Everett F. Patten,
Department of Psychology,
Miami University,
Oxford, Ohio.

My dear Patten:

The following interesting psychological phenomenon has recently been discovered by experimental psychologists: When a normal human being is sitting blindfolded and hears another person tell him that his arm is swinging forward, he will react to this suggestion by moving his arm (when his arm is supported on a movable cradle). Then if he is told, a few seconds later, that his head is falling forward on his chest, he will also respond by moving his head. The most interesting thing about this behavior in normal subjects is that the second response occurs much more rapidly than the first response no matter which suggestion happens to be given first. In other words, if the head-movement suggestion comes first, it will increase the rapidity of the arm movement which comes afterward, and if the arm-movement suggestion comes first, it will increase the rapidity of the following head movement.

The above fact is extremely significant and seems to have been well established by careful scientific investigators at several universities. The only question remaining unanswered is the extent of the influence of the first suggestion upon the second. That is, what is the speed of the normal subject's response to head movement following arm movement, and vice versa?

This is the problem which it is hoped you and your students at Miami will be able to solve.

The subjects in the experiment should be informed as to the nature of the problem before the experiment takes place, in order that they may understand its psychological significance. However, they should be carefully instructed not to let this knowledge of the problem influence their behavior in any way.

Very truly yours,

(Signed) Clark L. Hull

Table 1

Summary of mean number of seconds of continuous suggestion required to produce constant amounts of extended arm and head movement when each is preceded and followed by the other, first eight days.

Subject	Arm Response				Head Response			
	Preceding head response		Following head response		Preceding arm response		Following arm response	
	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial
Sh	80.5	46.8	66.7	43.7	52.1	42.2	60.2	48.0
M	38.6	28.4	31.3	27.0	27.3	24.5	34.2	29.6
Ja	117.1	113.4	188.1	159.1	84.3	63.3	82.1	60.1
Ir	39.2	28.7	39.5	25.5	41.9	31.8	49.0	31.7
It	65.2	77.7	91.7	57.1	118.0	91.8	94.7	88.0
M	70.4	48.1	53.7	41.8	82.6	63.8	61.4	44.1
Bi	47.4	39.7	44.1	32.6	33.2	29.1	32.0	27.9
In	97.1	69.0	132.3	70.7	59.5	36.3	40.0	34.7
Ju	52.6	44.9	68.2	64.0	57.8	54.8	61.2	46.2
Re	52.4	53.1	62.7	59.4	108.7	79.7	96.7	69.9
Mean	66.05	54.98	76.83	58.08	66.54	51.73	61.15	48.02

Table 1

Summary of mean number of seconds of continuous suggestion required to produce constant amounts of extended arm and head movement when each is preceded and followed by the other, first eight days.

Subject	Arm Response				Head Response			
	Preceding head response		Following head response		Preceding arm response		Following arm response	
	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial
Sh	80.5	46.8	66.7	43.7	52.1	42.2	60.2	48.0
Tu	38.6	28.4	31.3	27.0	27.3	24.5	34.2	29.6
Ca	117.1	113.4	188.1	159.1	84.3	63.3	82.1	60.1
Er	39.2	28.7	39.5	25.5	41.9	31.8	49.0	31.7
St	65.2	77.7	91.7	57.1	118.0	91.8	94.7	88.0
Fl	70.4	48.1	53.7	41.8	82.6	63.8	61.4	44.1
Bi	47.4	39.7	44.1	32.6	33.2	29.1	32.0	27.9
Ha	97.1	69.0	132.3	70.7	59.5	36.3	40.0	34.7
Bu	52.6	44.9	68.2	64.0	57.8	54.8	61.2	46.2
We	52.4	53.1	62.7	59.4	108.7	79.7	96.7	69.9
Mean	66.05	54.98	76.83	58.08	66.54	51.73	61.15	48.02

continuous suggestion required to produce constant amounts of arm movement (first and second trials combined) during head response. The sum of subjects, 100.48, and the sum of the arm movement following each response is 67.00 seconds, a difference in the direction opposite to that indicated by the hypothesis. The Probable Errors of these sums are 8.01 and 8.40 seconds respectively.

This letter was read to the class in psychology from which the subjects came, and later was shown to them individually. Every effort was made to produce a strong belief and expectation on the part of the subjects.

Otherwise the experiment was substantially like the one reported by Hull, Patten, and Switzer (5), except that the project continued through eight consecutive days, two cycles of four days each. The subjects were divided into two equal groups, the cycles of one group being of the A B B A type and those of the other being of the B A A B type. On the A days two arm suggestions were followed by two head suggestions; on the B days two head suggestions were followed by two arm suggestions. According to the present hypothesis, this experiment would be expected to show a faster reaction of both arm and head responses when each follows the other than when preceding, even though no such difference should normally appear in suggested reactions of this type.

Results and Conclusions

The results of this portion of the investigation are shown in condensed form in Table 1. In general the outcome of this experiment is indistinguishable from that by Hull, Patten, and Switzer. The head responses show a slight mean facilitation when following the arm responses, and the arm responses are slightly retarded when following the head responses. The mean number of seconds of continuous suggestion required to produce constant amounts of arm movement (first and second trials combined) preceding head response, for all ten subjects, is 60.46, and the mean of the arm movement following head response is 67.96 seconds, a difference in the direction opposite to that assumed by the hypothesis. The Probable Errors of these means are 5.04 and 8.68 respectively.

The D is 7.50, the r, .954, the P.E._D, 4.16, and the critical ratio is 1.80.

On the other hand, the mean of the head movements when preceding arm response (first and second trials combined) is 59.12 with a P.E._M of 5.40, while the mean of the head movements following arm response is 54.56 with a P.E._M of 4.30. This difference of 4.56 is in the direction assumed by the hypothesis. The r is .953, the P.E._D is 1.84, and the critical ratio is 2.48, which, while somewhat more satisfactory, falls short of statistical reliability.

A comparative examination of the results of this study and the one by Hull, Patten, and Switzer shows that in both cases the arm moved more slowly after the head responses. This suggests that there may be some active perseverative interference involved. If this were true, it is conceivable that such a tendency might be strong enough to over-ride a genuine but weak tendency to hypersuggestibility and thus mask its existence. In searching for a possible cause for such an effect it was recalled that at the end of each head and each arm response in the experiments under consideration, the movement was reversed, i.e., the member was replaced by the experimenter to its original position as if in preparation for the next response. In anticipation of this, moreover, several of the subjects would restore the member to its normal position voluntarily. In hypnosis, on the other hand, there is ordinarily no such reversal; the lids normally remain closed throughout the period of subsequent suggestions. In other words, to carry out the analogy of the hypnotic lid reaction in an experiment involving a possible perseverational heteroactive suggestion influence of an antecedent head movement on a

Table 2

Summary of mean number of seconds of continuous suggestion required to produce constant amounts of extended arm and head movement when each is preceded and followed by the other, second eight days.

Subject	Arm Response				Head Response			
	Preceding head response		Following head response		Preceding arm response		Following arm response	
	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial	1st trial	2nd trial
Sh	36.9	29.1	38.5	30.6	35.4	31.8	44.1	38.2
Tu	27.3	19.5	21.0	16.9	16.4	13.7	15.7	13.9
Ca	73.5	105.1	136.8	133.1	33.0	28.9	36.9	30.2
Er	25.9	23.1	34.5	27.6	38.9	31.5	32.8	27.8
St	32.7	30.8	30.6	37.6	37.1	36.8	37.9	32.3
Fl	61.8	55.3	56.5	47.5	85.0	60.4	58.7	47.8
Bi	53.3	38.1	42.3	32.2	39.9	36.2	30.6	26.2
Ba	62.3	54.9	86.1	68.5	48.8	37.5	48.5	41.6
Bu	43.9	40.3	46.5	41.8	41.5	38.2	45.4	44.9
He	60.2	49.6	66.5	51.1	63.2	58.1	71.0	58.1
Mean	47.78	44.58	55.93	48.69	43.92	37.31	42.16	36.10

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closely following arm movement would require that the head should remain forward on the chest throughout the response to arm suggestions. With a view to satisfying this demand, the present experiment was continued in the manner just described with the same subjects for eight more days, but with this change in the technique: new phonograph records were made in which the suggestion was explicitly given that once a suggested response was performed, the part of the body involved must remain in position unless the experimenter himself returned it to its original place.

A condensed summary of these additional results is shown in Table 2. A glance at this summary is sufficient to show that the change in technique has produced no detectable difference in the mean results. Once more we find, exactly as in the two preceding studies involving this general technique, that the head shows a slight heteroactive facilitation effect and the arm shows a somewhat greater heteroactive inhibiting effect.

In order to determine so far as possible whether the individual participants had really received the suggestion, a mimeographed questionnaire was filled out by each subject at the conclusion of the experiment (see pp. 13, 14, Appendix).

In various ways this questionnaire attempted to elicit indications from the subjects as to what was supposed to be the purpose of the experiment. All of the subjects responded in such a way as to indicate that they had fully comprehended the suggestion. This fact tends to make still more convincing the negative nature of the present outcome. It is difficult to say what these results mean, but it seems fairly clear that they furnish no support for the validity of the social suggestion hypothesis.

Another interesting and possibly significant fact was also revealed by this questionnaire: every one of the ten subjects reported feeling drowsy during the experiment, despite the fact that nothing whatever concerning either sleep or hypnosis was contained in the suggestions. This touches indirectly on the hypothesis that hypnotic hypersuggestibility is merely a fortuitous associate of hypnosis, being induced indirectly by the physiological state of relaxation which accompanies the hypnotic trance in most cases. This hypothesis assumes that this relaxation has the effect more or less completely of suppressing the spontaneous activity of the symbolic or thought processes. With this suppression should disappear the control normally exercised by symbolism over the lower levels of activity. This should leave the latter more completely exposed to the influence of suggestive stimuli from outside sources.

Therefore, if incipient sleep tendencies were somehow elicited by the technique of this experiment, these probably would involve relaxation. Since true sleep, as a study by Bass (1) has demonstrated, is a gradual and progressive change, it is reasonable to suppose that the drowsiness and relaxation would be greater at the second pair of suggestion reactions than at the first pair. This, according to the indirect physiological (relaxation) hypothesis, should produce a relatively greater facilitation of the response to the second pair of suggestions. Since this did not take place, this experiment tends somewhat to discredit the hypothesis that relaxation facilitates response to direct prestige suggestion. The fact that incipient sleep was probably also involved requires that the conclusion be held very tentatively. Indeed, if it could be shown that any considerable degree of true sleep was present, this might possibly explain the failure of the experiment to yield positive results, since sleep retards the failure of the experiment to yield positive results, since sleep retards

responses to suggestion and may wholly inhibit them (1). In the Trance and Waking States," American Journal of Psychology, 43: 272-286 (1930).

HULL, C.L., BAKER, C.B., "Hypnotic Susceptibility to Direct Prestige Suggestion in the Trance and Waking States,"

It has been assumed that hypnotic hypersuggestibility presents some possibilities of being a basic and essential characteristic of hypnosis. For this reason the nature and origin of hypersuggestibility becomes of considerable theoretical importance. A plausible hypothesis which would make hypnosis but a special case of direct prestige suggestion is that whenever a direct prestige suggestion is reacted to positively there is generated within the reacting organism a heightened susceptibility to react positively to all other direct prestige suggestions.

The present experiment has failed completely to show any indication of heteroactive hypersuggestibility in the case of waking postural suggestion, even with the introduction of a special indirect suggestion that this should take place at a certain point in the investigation.

Finally, the present experiment also seems to indicate that hypnotic hypersuggestibility is not the result of the state of relaxation which accompanies the trance, as apparently similar relaxation failed to induce heteroactive hypersuggestibility in the subjects of this investigation.

References

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1. Was the purpose of this experiment clear to you at the start? Somewhat.
2. How easy was it for you to respond to the suggestions which were given to you; check the appropriate answer: very difficult . . . difficult . . . fairly easy . . . easy . . . very easy. No
3. Did you make a voluntary attempt to perform the movement that was suggested to you? Not
4. Did the suggestions tend to make you drowsy? At times
5. Did your arm and head move without any special effort on your part? Yes
6. To the best of your knowledge, did your arm swing faster or slower after your head had fallen forward? Yes
7. Did your head tend to fall more rapidly after your arm had moved to the right? Yes
8. Did participation in this experiment alter your ideas as to its purpose? Not
9. What have experimental psychologists discovered concerning the relationship of arm and head movements of blindfolded people? That the first experiment accelerates the second
10. Do you believe that one person can hypnotize another person? Yes
11. If so, have you ever been hypnotized, and under what circumstances? Only by masters who were at the time students of psychology
12. State as clearly as possible, in a short paragraph, your conception of the purpose of this experiment:

To show that in a series of such experiments that the reaction times decrease as the experiment progresses.

1. Was the purpose of this experiment clear to you at the start? Yes
2. How easy was it for you to respond to the suggestions which were given to you; check the appropriate answer: very difficult . . . , difficult . . . , fairly easy . . .
easy . . . , very easy . . .
3. Did you make a voluntary attempt to perform the movement that was suggested to you?
..... After the first few trials
4. Did the suggestions tend to make you drowsy? At first, yes
5. Did your arm and head move without any special effort on your part? yes
6. To the best of your knowledge, did your arm swing faster or slower after your head had fallen forward? if anything, more swiftly
7. Did your head tend to fall more rapidly after your arm had moved to the right? . . .
... Cannot tell
8. Did participation in this experiment alter your ideas as to its purpose? No . . .
.....
9. What have experimental psychologists discovered concerning the relationship of arm and head movements of blindfolded people? Evidently, that they may take place without conscious relation
10. Do you believe that one person can hypnotize another person? Yes
11. If so, have you ever been hypnotized, and under what circumstances? No . . .
.....
12. State as clearly as possible, in a short paragraph, your conception of the purpose of this experiment:

Of this particular experiment, to determine the decrease in reaction time:
i.e., to determine exactly how much more suggestible a subject becomes after repeated trial under near-constant conditions.